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JAN 24 2007

OFFICE OF PETITIONS

In re Application of	:	
Alexander Ivanovich Taran	:	
Application No. 09/830,635	:	DECISION ON PETITION
Filed: 08/02/2001	:	
Attorney Docket No. VALER11.001APC	:	

This is decision on the petition filed on August 10, 2006, to withdraw the holding of abandonment in the above-identified application.

On March 25, 2005, the Office mailed a nonfinal Office action, which set a three-month shortened statutory period for reply. In the absence of a timely filed response, the application became abandoned on June 26, 2005. On November 16, 2005, the Office mailed a Notice of Abandonment.

In the present petition, petitioners asserted that they did not receive the nonfinal Office action mailed March 25, 2005, because the USPTO mailed it to an old correspondence address. Therefore, petitioners requested that the Office withdraw the holding of abandonment. Specifically, petitioners averred that their address was changed several years ago, and that their new address had been updated with the USPTO. Petitioners stated they had no problems receiving correspondence from the USPTO with regard to other patent applications at their current address. Petitioners requested that the USPTO update its records to reflect their current correspondence address associated with Customer No. 20995.

After reviewing the USPTO's records, and consulting with the Electronic Business Center, there is no indication that petitioner ever associated this application with Customer Number 20995. Moreover, the record does not show that petitioners filed a change of correspondence address with the USPTO to reflect their current address prior to the filing of this petition. Unless the correspondence address is designated as the address associated with a Customer Number, and that Customer Number is associated with a patent application, a separate change of correspondence address must be filed in each application for which a person is intended to receive communications from the Office. See MPEP 601.03.

As the record reveals that petitioners did not submit a timely change of correspondence address, the Office mailed the nonfinal Office action of March 25, 2005, to the correct correspondence address, as it existed on record at that time. For these reasons stated, the petition to withdraw the holding of abandonment is **dismissed**.

A copy of the nonfinal Office action of March 25, 2005, accompanies this decision for petitioners' convenience. The Office acknowledges petitioners' request to change the correspondence address to the address associated with Customer Number 20995, and has made it of record.

Any request for reconsideration of this decision must be filed within **TWO (2) MONTHS** from the mail date of this decision. Extensions of time are permitted under 37 CFR 1.136(a). The request for reconsideration should include a cover letter entitled "Renewed Petition under 37 CFR 1.181."

In the alternative, petitioners may wish to seek relief by filing a petition under 37 CFR 1.137(b) on the basis of unintentional delay, instead of submitting a request for reconsideration of the decision. A grantable petition under 37 CFR 1.137(b) must be accompanied by: (1) the reply required to the outstanding Office action or Notice, unless previously filed; (2) the petition fee, and; (3) a statement that the entire delay in filing the required reply from the due date for the reply until the filing of a grantable petition was unintentional.

Further correspondence with respect to this matter should be addressed as follows:

By mail: Mail Stop Petition
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, VA 22313-1450

By FAX: (571) 273-8300
 Attn: Office of Petitions

By hand: Customer Service Window
 Randolph Building
 401 Dulany Street
 Alexandria, VA 22314

Telephone inquiries related to this decision should be directed to the undersigned at (571) 272-3211.

C. T. Donnell

Christina Tartera Donnell
Senior Petitions Attorney
Office of Petitions

Enclosure: Copy of nonfinal Office action



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/830,635	08/02/2001	Alexander Ivanovich Taran	VALERII.001APC	1851

7590 03/25/2005
Knobbe Martens
Olson & Bear
Sixteenth Floor
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Newport Beach, CA 92660

EXAMINER

NORRIS, JEREMY C

ART UNIT PAPER NUMBER

2841

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/830,635	TARAN, ALEXANDER IVANOVICH	
	Examiner	Art Unit	
	Jeremy C. Norris	2841	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-61 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-36 and 46-61 is/are rejected.
- 7) ☒ Claim(s) 37-45 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawings were received on 13 December 2004. These drawings are acceptable.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 24-26, 30, 46-48, 59, and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,100,475 (Degani) in view of US 5,406,459 (Tsukamoto).

Degani discloses, referring to figure 5, a contact node comprising: at least two metallized contacts (16, 27) respectively, made on the base of a dielectric material and mutually aligned and interconnected electrically and mechanically by a conductive binding material (26), wherein it is made in the form of a joint between a contact made in the form of a metallized contact pad (27), and a respective contact joined with the

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contact pad via conductive binding material (solder ball shown not specifically referenced) and made in the form of a metallized hole through an upper-lying connection layer, the metallized hole having an inner surface thereof connected to the first conductive path (21) the lower edge of the metallized hole being faced to the metallized contact pad on the surface of the under-lying connection layer. Degani does not specifically disclose second conductive paths arranged on the surface of the under-lying substrate [claim 24]. Instead, Degani generically refers to the under-lying layer as an interconnection substrate without further details. However, it is well known in the art to connect mounting pads to conductive paths on the surface of substrates as evidenced by Tsukamoto (see fig 2A). Therefore, it would have been obvious, to one having ordinary skill in the art, at the time of invention, to connect the pads in the invention of Degani to conductive paths on the surface of the under-lying layer as is well known in the art and evidenced by Tsukamoto. The motivation for doing so would have been to allow for signal to be routed from the pads to other areas on the surface of the underlying layer. Additionally, the modified invention of Degani teaches, wherein the metallized hole is in the form of a cylinder [claim 25], wherein the upper edge of the metallized hole coupled with the conductive paths on the surface of the upper-lying connection layer forms a metallized rim along the periphery of the edge [claim 26], wherein the metallized contact pad is flat [claim 30], wherein the upper and lower edges of the metallized hole have a facet [claim 46]. Regarding the limitation "wherein the contact node is for use with unpackaged IC chips for multichip modules" [claim 59], this

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limitation is an intended use limitation and thus only requires the ability to perform in the stated manner.

Similarly, Degani discloses, referring to figure 3, a contact node, comprising: a first connection layer (41) having a conductive path on a surface thereof; a second connection layer (42) deposited adjacent to the first connection layer; and a metallized hole (43) provided through the first connection layer and having an inner surface thereof connected to the conductive path of the first connection layer; and a metallized contact pad provided on the surface of the second connection layer, wherein a conductive binding material (45) is deposited in the metallized hole to be in contact with the inner surface of the metallized hole and the metallized contact pad so as to form connection between the first and second connection layers. Degani does not specifically disclose second conductive paths arranged on the surface of the under-lying substrate connect to the contact pad [claim 47]. Instead, Degani generically refers to the under-lying layer as an interconnection substrate without further details. However, it is well known in the art to connect mounting pads to conductive paths on the surface of substrates as evidenced by Tsukamoto (see fig 2A). Therefore, it would have been obvious, to one having ordinary skill in the art, at the time of invention, to connect the pads in the invention of Degani to conductive paths on the surface of the under-lying layer as is well known in the art and evidenced by Tsukamoto. The motivation for doing so would have been to allow for signal to be routed from the pads to other areas on the surface of the underlying layer. Additionally, the modified invention of Degani teaches wherein the

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metallized hole is in a form of a cylinder [claim 48]. Regarding the limitation "wherein the contact node is for use with unpackaged IC chips for multichip modules" [claim 61], this limitation is an intended use limitation and thus only requires the ability to perform in the stated manner.

Claims 24, 27-35, 46, 47, 49-57 59 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,087,597 (Shimada) in view of Tsukamoto.

Shimada discloses, referring to figure 2, a contact node comprising: at least two metallized contacts coupled with conductive paths arranged on surfaces of connection layers made on the base of a dielectric material and mutually aligned and interconnected electrically and mechanically by a conductive binding material (13), wherein it is made in the form of a joint between a contact made in the form of a metallized contact pad (31) coupled with the conductive paths on the surface of the connection layer, and a respective contact joined with the contact pad and made in the form of a metallized hole (23) in an upper-lying connection layer, the lower edge of the metallized hole being faced to the metallized contact pad on the surface of the underlying connection layer, and the upper edge of the hole being coupled with the conductive paths (24) on the upper surface of the upper-lying connection layer. Shimada does not specifically disclose second conductive paths arranged on the surface of the under-lying substrate connect to the contact pad [claim 24]. Instead, Shimada generically refers to the under-lying layer as a substrate without further details. However, it is well known in the art to connect mounting pads to conductive

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paths on the surface of substrates as evidenced by Tsukamoto (see fig 2A). Therefore, it would have been obvious, to one having ordinary skill in the art, at the time of invention, to connect the pads in the invention of Shimada to conductive paths on the surface of the under-lying layer as is well known in the art and evidenced by Tsukamoto. The motivation for doing so would have been to allow for signal to be routed from the pads to other areas on the surface of the underlying layer. Additionally, the modified invention of Shimada teaches wherein the metallized hole is made in the form of a truncated cone, the lower base of the truncated cones being faced to the contact pad on the surface of the underlying connection layer, and the upper base of the truncated cones being coupled with the conductive paths on the upper surface of the upper-lying connection layer [claim 27], wherein the upper edge of the metallized hole coupled with the conductive paths on the surface of the connection layer forms a metallized rim long the periphery of the edge [claim 28], wherein an integrated circuit chip (41) oriented by its metallized contact pads to the corresponding metallized holes in the upper-lying connection layer is used as a connection layer with the metallized contact pads respective to the metallized holes in the upper-lying connection layer [claim 29], wherein the metallized contact pad is flat [claim 30], further comprising a protrusion (31) interacting with the respective metallized hole formed in the center of the metallized contact pad respective to the metallized hole [claim 31], wherein the protrusion is in the form of a sphere (see col. 2, lines 20-30) [claim 34], wherein the protrusion is made of a conductive material (see col. 3, lines 30-35) [claim 35], wherein the upper and lower edges of the metallized hole have a facet [claim 46]. Regarding the

limitation "wherein the contact node is for use with unpackaged IC chips for multichip modules" [claim 59], this limitation is an intended use limitation and thus only requires the ability to perform in the stated manner.

Similarly, Shimada discloses, referring to figure 2, a contact node, comprising: a first connection layer (21) having a conductive path on a surface thereof; a second connection layer (30) deposited adjacent to the first connection layer having a conductive path on a surface thereof; and a metallized hole (23) provided through the first connection layer and having an inner surface thereof connected to the conductive path of the first connection layer; and a metallized contact pad (31) provided on the surface of the second connection layer and connected with the conductive path of the second connection layer, wherein a conductive binding material (13) is deposited in the metallized hole to be in contact with the inner surface of the metallized hole and the metallized contact pad so as to form connection between the first and second connection layers. Shimada does not specifically disclose second conductive paths arranged on the surface of the under-lying substrate connect to the contact pad [claim 47]. Instead, Shimada generically refers to the under-lying layer as an interconnection substrate without further details. However, it is well known in the art to connect mounting pads to conductive paths on the surface of substrates as evidenced by Tsukamoto (see fig 2A). Therefore, it would have been obvious, to one having ordinary skill in the art, at the time of invention, to connect the pads in the invention of Degani to conductive paths on the surface of the under-lying layer as is well known in the art and

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evidenced by Tsukamoto. The motivation for doing so would have been to allow for signal to be routed from the pads to other areas on the surface of the underlying layer. Additionally, the modified invention of Shimada teaches, wherein the metallized contact pad has a metallized protrusion (11) in a form of a sphere (see col. 2, lines 20-30) in the conductive binding material [claims 49, 54], wherein the metallized hole is in a form of a truncated cone [claim 53]. Regarding the limitation "wherein the contact node is for use with unpackaged IC chips for multichip modules" [claim 61], this limitation is an intended use limitation and thus only requires the ability to perform in the stated manner.

Regarding claims 32, 33, 50-52 and 55-57, the modified invention of Shimada discloses the claimed invention as described above except the modified invention of Shimada does not specifically state that the protrusion is in the form of a cylinder [claims 32, 51, 56], cone [claims 33, 50, 55] or rod [claims 52, 57]. However, Shimada does teach that any shape may be used for the protrusion (see col. 7, lines 10-20). The Examiner takes Official Notice that cylinder, cone, and rod are known and well defined shapes. Therefore, it would have been obvious, to one having ordinary skill in the art, at the time of invention, to use any of the rod, cylinder, or cone shapes as the shape for the protrusion in the invention of Shimada. The motivation for doing so would have been to utilize the shape that most facilitates insertion into the corresponding through hole (see Shimada, col. 7, lines 15-20).

Response to Arguments

Applicant's arguments with respect to claims 24-36 and 46-61 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

Claims 37-45 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claim 37 states the limitation "further comprising a contact made in the form of a rod fixed in the underlying connection layer orthogonally to its surface inserted into the metallized hole". This limitation, in conjunction with the other claimed limitations was neither found to be disclosed in, nor suggested by the prior art. Claim 44 states the limitation "wherein the diameter D of the upper base of the truncated cone, the width h of the metallized rim, the diameter d of the lower base of the truncated cone, the thickness t of the dielectric material of the connection layer and the minimal width L of the respective metallized contact pad on the underlying connection layer are coupled with the following relationship: $L \geq D + 2h = d + 2t + 2h$ ". This limitation, in conjunction with the other claimed limitations was neither found to be disclosed in, nor suggested by the prior art.

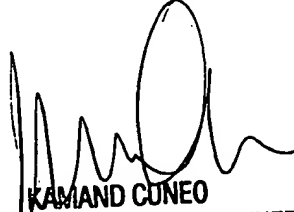
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy C. Norris whose telephone number is 571-272-1932. The examiner can normally be reached on Monday - Friday, 9:30 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on 571-272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JCSN


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